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# RESPONSE & REBUTTAL

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## Clarifying Misconceptions and Misrepresentations in Achievement Goal Research in Sport: A Response to Harwood, Hardy, and Swain

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In a recent article, Harwood, Hardy, and Swain (2000) presented what they termed a critical analysis of the conceptualization and measurement of achievement goals in sport. The purpose of the present article is to challenge their interpretation of achievement goal theory and to question many of their subsequent recommendations. Specifically, the present response will focus on Harwood et al.'s (a) interpretation of Nicholls' personal theories of achievement; (b) their contention that task involvement *cannot* exist in competitive sport; (c) the proposed tripartite conceptualization of goal involvement states; (d) their understanding of the relationship between the way an individual conceptualizes ability and the foundation of dispositional goal orientations; and (e) their criticisms of the way dispositional goal orientations have been measured in sport. Theoretical frameworks are always a work in progress. To this end, we concur with the spirit of Harwood et al.'s article which implies that our conceptual models should be continuously questioned, tested, and extended. However, we believe their interpretation and recommendations do little to enhance our conceptual understanding of achievement goal theory in sport.

**Key words:** achievement goal theory, sport, motivation

*To take someone's ideas seriously enough to question them is a significant form of respect. It builds communities where controversy stimulates thought instead of enmity; where the clash of ideas leads not to victory for one party but to new questions and new answers for everyone.* (Nicholls, 1989, p. i)

The words above are from the acknowledgments of John Nicholls' (1989) book *The Competitive Ethos and Democratic Education*. Duda (1997) referred to them in her response to some initial questions raised by Hardy (1997) about the

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assumptions behind and findings emanating from achievement goal frameworks in the athletic domain. They are pertinent here, given the purpose of the current paper which is to respond to ideas presented by Harwood, Hardy, and Swain (2000) in their recent *JSEP* article titled *Achievement Goals in Sport: A Critique of Conceptual and Measurement Issues*. In their paper, Harwood and colleagues identify what they consider to be a number of conceptual and measurement problems concerning the way achievement goal theory has been understood, interpreted, and applied in sport.

It is our intent in this response to challenge Harwood et al.'s interpretation of achievement goal theory, and to question their subsequent recommendations. Although we disagree with much of the criticism put forth and the recommendations proposed, we do believe that the thoughts their paper have stimulated, and the subsequent dialogue their work has initiated, is both important and timely. We hope too that the points raised here will help better frame and direct achievement goal research and further enhance our overall understanding of motivation processes and achievement behavior in sport.

### **Personal Theories of Achievement**

We would contend that the genesis of many of the concerns raised by Harwood and associates is their misunderstanding of some of the fundamental tenets of achievement goal theory. To this end, Harwood et al. begin their overview of what they refer to as the "original achievement goal theory" by arguing that:

an individual adopts the goal that most closely reflects his or her cognitive belief about what is required to maximize achievement in that particular social context. In other words, each individual has a "personal theory" of what achievement means to them for that situation or task. They will then focus on particular achievement goals to meet their needs and satisfy their personal theory. (p. 236)

The impression given by Harwood et al. is that achievement goals are selected to meet specific needs and to satisfy personal theories. If one follows this logic, one might conclude that achievement goals serve some distal construct that itself energizes achievement behavior. Achievement goal theory contends, however, that it is the achievement goals themselves that energize achievement cognition, affect, and behavior, and that personal theories are a function of these goals. We do not believe Harwood et al. adequately explain the motivational process suggested by achievement goal theory, and we further argue that they misrepresent Nicholls' (1989) conceptualization of personal theories. Consistent with misrepresentations marking other published works (e.g., Hardy, 1997; Hardy, Jones, & Gould, 1996), the authors seem to be confusing achievement goals (i.e., the subjective meaning of success) with discrete goals and strategies aimed at fulfilling some particular objective.

We would contend that it is more accurate to state that in addition to reflecting the conception of ability employed by an individual to understand the *meaning of success* in a given activity, achievement goals also provide a framework for interpreting performance related information. Indeed, it is the consistently coherent patterns of performance related information associated with the endorsement

of different achievement goals that represent the concept of personal theories identified by Nicholls (1989) in his research.

These theories reflect how success is defined in a particular achievement context and what individuals believe it takes to succeed in a given situation. They are assumed to relate, in a conceptually coherent manner, with an individual's world views. For example, task and ego goal orientations have been found to be associated with different beliefs about the wider purposes of, and beliefs about, the causes of success in sport (Duda, 1989; Treasure & Roberts, 1994) and in the classroom (Duda & Nicholls, 1992; Nicholls, 1989). In sum, it is the energizing capacity of the goals and the conceptually coherent pattern of thoughts that leads individuals to adhere to a consistent set of beliefs. It is this totality of the motivational process that comprises an individual's personal theory.

### **Task Involvement and the Objective Achievement Environment**

Perhaps the most striking misrepresentation of achievement goal theory contained in the article by Harwood and colleagues can be found in the following passage:

Nicholls proposed that *only* when we are engaged in achievement tasks without evaluative cues, task-extrinsic incentives, or physiological stress can we employ an undifferentiated conception of ability (i.e., in tasks in which the focus is centered solely on learning, understanding something more fully, solving a problem, or performing a specific action without evaluation). (p. 238)

It is true that Nicholls speaks of the objective characteristics of achievement contexts and tasks which "set the stage," or increase the tendency, for task or ego involvement to be evoked. However, this does *not* mean that Nicholls suggests the objective reality always equates to the individual's subjective reality. Further, in none of our readings of Nicholls' work have we ever understood him to propose that *only* when we are engaged in achievement tasks without evaluation, extrinsic rewards, or physiological stress can we employ an undifferentiated conception of ability (i.e., be task involved). It should be noted as well that Harwood et al. focus on the objective situational characteristics as the principal contributor to an individual's goal states. This is in contrast to the work of Ames (Ames, 1992a, 1992b; Ames & Archer, 1988), Maehr (Maehr & Braskamp, 1986; Maehr & Midgley, 1991, 1996), and colleagues. These researchers have repeatedly shown that it is the subjective interpretation of the environment, or perceived motivational climate, that we must examine to understand the meaning of achievement endeavors.

Based on this misinterpretation of Nicholls' work and achievement goal theory per se, Harwood et al. go on to claim that task involvement cannot exist in the competitive sport environment. We discuss this point in more depth later in this response. The key to understanding motivational processes in the athletic domain, however, is how the competitive conditions described by Harwood et al. are subjectively perceived by the athlete. This means it is possible to be task involved even in the midst of the most extreme forms of competition.

The two hypothetical examples offered by Harwood et al. of differential manifestations of goal states lead us to further question their understanding of the

issue. In the case of the first athlete presented, the track and field athlete, we would contend that the authors are describing a task-involved individual whose sense of self is simply not threatened under the circumstances expressed, and therefore experiences insufficient self-awareness to trigger a shift from task to ego involvement. As for the second example, the swimmer, the authors' suggestion that this athlete "reports states of high task and high ego involvement before a particular race" (p. 242) raises the issue of whether they are confusing a preperformance emphasis on outcome and performance goals with states of goal involvement (Duda, 2001).

When summarizing their points based on the two hypothetical vignettes, Harwood et al. once again erroneously equate the objective features of the context to the subjective situation. In contrast to their view, we would argue that it is the individual's perception of the psychological environment rather than "the nature of competition (i.e., coactive dependence)" (p. 242) which is critical in determining goal involvement.

### *Determinants of States of Goal Involvement*

Harwood and colleagues contend that Nicholls proposes that task and ego involvement are activated by situational cues "despite levels of goal orientation" (p. 238). This comment ignores a central tenet of achievement goal theory in that task and ego involvement are proposed to be activated as a function of the interplay of situational and individual difference variables. It is more accurate, therefore, to state that task and ego involvement are evoked by situational cues in conjunction with an individual's dispositional goals. Harwood et al.'s interpretation of Nicholls' position is even more peculiar given the fact that much of John Nicholls' career was spent conducting research on the nature and correlates of individual goal orientations in the education context.

### **Experiencing Task and Ego Involvement**

Borrowing a quote from Nicholls (1989) in *The Competitive Ethos and Democratic Education*, Harwood et al. argue that states of task and ego involvement can be experienced simultaneously. We would counter by stating that the cited words of Nicholls do *not* suggest that task and ego involvement can be experienced at the same time. Rather, Nicholls is indicating here that *throughout an achievement activity* (e.g., a tennis match, a round of golf, a soccer game), an individual can fluctuate from one state of involvement to another depending on his or her perception of the momentary situational cues and dispositional tendencies. We also do not believe there is a continuum between states of task and ego involvement as suggested by Harwood et al. In contrast, we would contend that abrupt changes in states of involvement occur. That is, one might be brought out of a state of task involvement by a coach publicly highlighting a mistake, or a competitor or fan making a derogatory remark about one's competence. One does not become gradually ego involved. For example, Nicholls (1984) describes his first day on skis during which he had gained:

a pleasant sense of accomplishment from improving to the point at which I was able to negotiate a gentle slope and make snowplow turns. I had applied

effort and had improved; I felt competent in the less differentiated sense. The subsequent appearance of two highly skilled small children produced a momentary shock to this sense of competence. However, because I had spent less time and effort than these children had, my poor showing compared to theirs did not indicate a lack of capacity. (p. 42)

The example above reflects a case in which the situational cues were extremely salient and forced an abrupt if momentary change in the appraisal of the activity. That is, Nicholls' skiing experience went from a state of initial task involvement to a state of self-awareness that was associated with the ego-involved manner in which performance information was processed. Hopefully, he was able to resume his task involved engagement in skiing! We want to emphasize that in the quoted example, or in any other published writing for that matter, Nicholls *did not* suggest one could experience task and ego involvement concurrently. As Duda and Whitehead (1998) noted, the very essence of these two psychological states (as described by achievement goal theorists such as Nicholls, Dweck, Ames, and Maehr) are incompatible at any particular moment. That is, the nature of the processing (i.e., attentional focus, the concerns of the individual) and the interpretive lens through which performance information is understood are qualitatively different when one is task or ego involved. With respect to this topic, however, we do agree with Harwood et al. that more research is needed on the measurement of goal involvement.

In arguing that states of task and ego involvement fluctuate from one state of involvement to another (and cannot be experienced simultaneously), it is not being suggested, as Harwood et al. propose, that "actions can have only a single motivational cause" (p. 250). As emphasized above, current and typical (over time) situational dynamics and dispositional tendencies comprise multiple motivational determinants. Further, and consistent with the brain's capability for parallel processing (Kahneman, 1973), we are arguing that one particular focus dominates at any given time. Specifically, there is a reduction in task involvement when one is attending to how one looks or how one is performing compared to others. Consistent with Nicholls' (1984) view, we contend that while self-awareness undermines task involvement, it does not completely eliminate it.

### Understanding Conceptions of Ability

We would claim that Harwood et al.'s argument about the relationship between the way an individual conceptualizes ability and the foundation of dispositional achievement goal orientations is inherently flawed. Specifically, they state that adolescents and adults can no longer process ability in an undifferentiated manner. However, individuals over the age of 12 do have the capacity to understand both conceptions of ability and can place a degree of value on each.

According to Nicholls (1984, 1989), such emphases or tendencies are manifested in the individual's dispositional achievement goal orientations. Consequently, a person may have a tendency to emphasize one conception of ability over the other (i.e., be high or low in task and ego orientation), but that does not mean she or he does not understand, value, or attend to the other. Thus it is not inevitable that individuals will become ego-involved after they have developed an understanding of ability as current capacity. Rather, such individuals are, for the first time,

cognitively capable of choosing a more or less differentiated conception of ability by which to interpret subjective success in different achievement settings. What distinguishes predominantly ego-oriented individuals, for example, is their tendency to *evoke*, not their capability to *employ*, a differentiated conception of ability. As Nicholls (1989) has shown, there is virtually no individual variation in the capacity of individuals to view ability in its differentiated form after about 12 years of age. Yet, variation to the extent to which individuals are preoccupied with their current ability and see superior ability as essential for success is, at this and other ages, considerable (Nicholls, Cobb, Wood, Yackel, & Patashnick, 1990).

After 12 years of age, the *choice* to endorse one concept over the other becomes informed by the value placed on that goal (demonstrating ability-validating self-worth vs. personal growth-developing self-worth). Adolescent and adult athletes clearly understand that ability is not effort, but that does not mean some are not more prone to emphasize the role of effort, hard work, and skill mastery in terms of perceived successful accomplishment. In these cases, personal perceptions of success have little or nothing to do with the performance of others, although these athletes will also recognize, because of their cognitive maturity, that others may have greater capacity and may be comparatively more successful when in direct competition. Harwood et al. appear to be particularly confused on these important distinctions.

### Definitions of Task and Ego Involvement

Harwood et al. question the origin and meaning of the terms "task" and "ego" and wonder whether these goals hold different meanings and relevancies in sport from those they hold in education. We commend them for questioning the applicability of certain aspects of achievement goal theory in sport, but we do not believe they offer any direct evidence or compelling argument to support their statement. Although recognizing there may be meaningful differences between achievement contexts, it is also important to attend to features that are common to achievement settings (Nicholls, 1992). Indeed, we would question the assumption proffered by Harwood et al. and argue that, like sport, the classroom is typically competitive, evaluative, public in nature, and colored by norms and tests of competence. The essence of Harwood et al.'s assertion is that the classroom is some utopian space where the focus is solely on intrinsic learning and studying. This would be wonderful if it were so, but this is a questionable representation of the education context (see Nicholls, 1989).

Harwood et al. further argue that there is a major difference between defining task involvement as learning, working hard, and understanding (which we presume they are suggesting is the way it has been defined in education), compared to defining it in terms such as mastery, improvement, and personal progress which may be more relevant to sport. We do not feel that they provide any support for this claim and would contend that the distinctions they are attempting to draw are confusing and, to a great extent, an issue of semantics. What needs to be clear is that mastery, effort, learning, or improvement are simply criteria by which task-involved athletes evaluate whether they have been successful. We would also suggest that whether learning, working hard, and understanding are relevant in the sport context depends on how these constructs are defined.

In the points raised by Harwood and associates, the interrelationships and interdependencies between these constructs seem to be ignored. Indeed, we wonder how it is possible to experience mastery, improvement, and personal progress without learning, effort, and developing understanding. Similarly, we question whether mastery or improvement can occasion a sense of personal success if not coupled with effort and understanding. Based on achievement goal theory, all of these terms are getting at the same thing, namely, they are criteria by which individuals judge successful accomplishments when they adopt a task goal perspective.

### Multiple Goal Involvement States in Sport

A consistent theme throughout the manuscript is Harwood et al.'s refusal to believe an individual can evaluate his or her own ability against that of another and still be in a state of task involvement. Based on this faulty reasoning, Harwood et al. continue by introducing a new construct. More specifically, they propose a state of ego involvement relative to oneself or, as they describe later, *self-referenced ego involvement*. This is perhaps the most controversial argument forwarded by Harwood and colleagues as they claim that there are three goal states of involvement in sport. Specifically, they propose the existence of:

pure task involvement, in which achievement is conceived of merely as effort, hard work, and learning, with no direct or observable competence outcome.... self-referenced ego involvement, in which performers' concerns are focused on the adequacy of personal ability associated with the level of current skills.... irrespective of the skills of others.... Finally, norm referenced ego involvement...wherein achievement is conceived of as demonstrated ability that compares favorably with the ability of others. (p. 244)

Consistent with their questionable assumptions delineated above, Harwood et al. argue that "task involvement should not be present in competitive sport" (p. 244) because of the objectively ego involving nature of the activity. They continue that what previous researchers have labeled as task involvement in a competitive setting is "probably self-referenced ego involvement" (p. 244).

As a rationale for their tripartite conceptualization of goal involvement states, Harwood et al. contend that elite performers cannot experience task involvement in competition and that recreational activities form the only setting in which an undifferentiated concept of ability, and hence pure task involvement, might be experienced in the sport domain. We would contend that this is patently untrue and, on a personal note, we would lament a world of sport, even at the highest echelons, in which task involvement does not exist—and even flourish! There is empirical and anecdotal evidence to support our position. With respect to the latter, at the 2000 Association for the Advancement of Applied Sport Psychology conference, Jeff Rouse (Gold Medal winner in the 100-m backstroke at the 1996 Olympics in Atlanta) described how success finally came to him when he stopped focusing on winning and outdoing others and centered instead on his relationship with the water and what he referred to as achieving "easy speed." In our view, it is important that researchers and practitioners do not forget that athletes in both training and competition often use an undifferentiated conception of ability and perceive success in terms of effort, mastery, and improvement. That is, they can be task involved.



We would further question whether one can be ego involved relative to oneself. With regard to Harwood et al.'s introduction of the concept of self-referenced ego involvement, their argument appears to be that one simply competes with oneself. This is an interesting point, but we disagree that self-competition means one is ego involved. When evaluating performance in a self-reference manner relative to previous performances, an individual is not engaging in normative evaluations with present others, and so is not invoking ego-involving comparisons. Consistent with an argument presented by Nicholls (1992), ego involvement only exists when one is concerned with the adequacy of ability relative to others, not with one's self.

At another level, this argument harkens back to discussions in the 1970s about defining competition. Sherif (1976) argued that you could compete with yourself, in that competition did not need the presence of others. Martens (1975) disagreed and stated that a competitive context "excludes the comparison of a person's performance with his previous performance in the absence of an evaluative other" (p. 71). We would invoke a similar argument here in that to be ego involved, the individual must perceive that others are capable of evaluating the performance. Otherwise it is not normative, even when a standard of excellence is known and the person is trying to achieve that standard.

Harwood et al. have argued that their tripartite approach will advance our conceptual understanding of sport motivation. Unfortunately, they provide no conceptual or empirical insight into the antecedents and consequences of their proposed new state of goal involvement. If conceptual advances are to be made, it is important to know how the motivational processes associated with self-referenced ego involvement differ from those aligned with task involvement or the standard conception of ego involvement. Furthermore, it is important to determine where self-referenced ego involvement fits into the puzzle, and at what stages we might expect cognitive developmental differences to emerge. Without addressing such issues, the approach put forth by Harwood et al. does little to enhance conceptual clarity.

### Perceptions of Ability

As six individuals involved in achievement goal research, we are far from "disgruntled" with the tenet concerning the role of perceived ability in the current achievement-goal literature. The presumed interplay between perceptions of ability and achievement goals is a fundamental tenet that is central to achievement goal theory. We, and others in the field of sport and educational psychology (Ames & Archer, 1988; Newton & Duda, 1999; Nicholls, Chueng, Lauer, & Patashnick, 1989), have studied this variable in past empirical research and will continue to examine its influence on motivation. Moreover, we disagree with Harwood et al.'s conceptualization of the relationship between task orientation and perceived ability. Achievement goal theory does not state that perceived ability plays "no role with respect to task orientation" (p. 245). Rather, Nicholls (1989) suggests that we would not expect perceived ability to moderate the effects of task orientation, that is, we would *not* predict differential motivational patterns among task-involved individuals who possess high or low perceived ability. This is a very significant point particularly in relation to Harwood et al.'s contention that:

Not being able to see or feel noticeable improvements in one's motor-skill levels or physical competencies is perhaps as motivationally devastating as not being able to demonstrate normative superiority. (p. 245)

Where, we ask, in the multitude of studies on the ramifications of achievement goals in the physical domain, is there compelling evidence to substantiate this contention? To our knowledge, there is no empirical evidence to suggest that failure to improve when one is task involved leads to motivational devastation. Unless one recognizes that hard work is futile, task-involved individuals will likely consider that further effort will lead to improvement, development, or growth. Although task-involved individuals may be disappointed or frustrated when personal improvement does not occur, we should see a resilience in their achievement striving because such setbacks are *not* viewed as a reflection of the inadequacy on their part. The concern, in contrast to someone who is in a state of ego involvement, is more on what one is doing and less on how one is doing compared to others.

### Measurement Concerns

As is clearly evidenced by our comments above, we are not convinced as to the merits of many of the conceptual arguments forwarded by Harwood et al. Our skepticism with respect to the scientific merits of their arguments is not limited to their attempts to advance theory in this area, but also with respect to their critical statements regarding measurement issues. For example, the comment that "there is no a priori reason why individuals who claim to feel successful through working hard and learning do not do so merely to satisfy their superordinate states of self- and norm-referenced ego involvement" (p. 246) reflects a lack of understanding as to *what the stem* of the respective questionnaire used to assess task and ego orientation is instructing the participant to consider.

The stem of the items used in the Motivation Orientation Scales (MOS: Nicholls, Patashnick, & Nolen, 1985), the Perception of Success Questionnaire (POSQ: Roberts, Treasure, & Balague, 1998), and the Task and Ego Orientation in Sport Questionnaire (TEOSQ: Duda & Nicholls, 1992) asks participants about their perceptions of success, for example, "I feel most successful if" in the case of the MOS. The stem does not ask the participant: "If I am successful it is due to," as Harwood et al. imply. This is an important distinction, as those endorsing an ego orientation will *not* score high on an item that says "I feel successful in sport when I try hard" because, when using a differentiated concept of ability, effort is presented and withdrawn to reflect or protect perceptions of ability. In other words, while an ego-oriented athlete might put forth effort to succeed, "trying hard" is not sufficient to lead to perceptions of success.

This is not the same for those endorsing a task orientation and utilizing an undifferentiated concept of ability. Trying hard has a different meaning depending on whether an individual is task or ego involved. The issue, therefore, is not whether trying hard is a behavioral correlate of ego involvement or whether it is a determinant of normative success, but whether an individual endorsing an ego orientation feels successful simply as a function of trying hard.

We believe Harwood et al. are missing the fundamental point that success and failure are subjective psychological states (Maehr & Nicholls, 1980). Our

theoretical arguments here are supported by empirical data, as we do not believe there is any evidence to suggest that the item "I feel successful when I try hard" has ever loaded on the ego dimension of either the POSQ (see Roberts et al., 1998), or the TEOSQ (see Duda & Whitehead, 1998). Indeed, if the particular item had cross-loaded on the task and ego dimensions, it would seriously question the assumption of orthogonality that is the basis for the two-dimensional factor structure of both measures.

We agree with the comment that applied sport psychologists and coaches will want to gain information about their athletes in the context of competition. Indeed, if one is interested in predicting short-term performance, as Harwood et al. appear to be, the development of a measure to assess dispositional tendencies for competition would seem to be a significant research endeavor. However, neither the POSQ nor the TEOSQ were designed, nor do they make claims, to measure such dispositions in the context of competition *exclusively*. That is, the stated purpose of these measures is not to "help us advance our understanding of a performer's self-referent conceptions of achievement (cf. self-referenced ego orientation) in a competition context" (p. 248). Rather, these measures were developed to assess an individual's tendencies to endorse certain criteria that define success in sport or a particular sport overall. In the development of these instruments, no distinction was ever made between competition and training contexts (surely applied sport psychologists and coaches are interested in the latter context, i.e., the setting in which competitive athletes spend most of their time). In essence, Harwood et al. seem determined to criticize these measures for failing to assess something they were never designed to examine.

This raises an important issue with respect to the overarching purpose of research in sport that has been guided by the achievement goal framework. Although it may be very interesting and desirable to be able to predict competitive performance in the short term, we believe that the focus of achievement goal theory, as originally conceptualized, was to ascertain what impacts the quantity and quality of achievement striving over time (see Duda, 2001, for a more extensive discussion).

At the heart of the achievement goal framework is the assumption that an examination of individuals' dispositional goal orientations, as measured by the POSQ or TEOSQ, and their perceptions of the motivational climate will provide detailed information about patterns of achievement behavior over time (i.e., performance consistency, persistence during adversity). Moreover, these same constructs are assumed to predict emotional responses, indices of psychological and physical well-being, and patterns of moral reasoning among other outcomes. What we must therefore keep in mind is that the aim of achievement goal theory is to further our understanding of motivation processes and *not* merely predict variability in performance.

Harwood et al. raise an interesting point concerning whether the POSQ and TEOSQ are "assessing and capturing the motivational reality of competitive sport" (p. 249), given that the task subscale of each respective measure is usually negatively skewed. Their point appears to be, are these highly skewed scores a reflection of the task orientation scale of the respective measure, or are athletes truly that strongly predisposed to view success in such a task involving way? If the latter is true, then parents, coaches, and teachers are being very effective in socializing an

athlete's perception of success that is based on improvement, effort, and mastery. If the former is true, however, more research is needed into the makeup of the task orientation scale and/or techniques employed to transform a very skewed task distribution prior to statistical analyses (Duda & Whitehead, 1998).

We would contend that whatever argument is correct, researchers in sport psychology should continue to subject their questionnaires to rigorous tests, thus ensuring that we are measuring what we purport to measure (Roberts et al., 1998). This is certainly true in the case of both the POSQ and TEOSQ. However, it appears to us that the research, over 100 published studies, that has utilized both measures across sports, competitive levels, nationalities, and cultural groups supports the construct validity of *both* the ego and task orientation scales (Duda & Whitehead, 1998). Both scales have been found to have predictive utility with respect to a plethora of variables reflecting the meaning of motivational processes operating in sport. Given what the POSQ and TEOSQ were designed to assess, we have a great deal of confidence, based on empirical support, that both the POSQ and TEOSQ are valid and reliable instruments to assess an individual's tendency to utilize specific criteria when defining success in sport.

Continuing their criticism of the dispositional measures that are currently being used in sport, Harwood et al. contend that we should expect "a good dispositional measure to be predictive of the likely states of task and ego involvement" (p. 249) in competition. They report research from their own group which has failed to establish a relationship between TEOSQ goal orientation scores and measures designed to assess task and ego states of involvement prior to competition. In contrast to their argument, we would contend that there are no current valid and reliable measures of goal involvement in the sport literature to allow for an examination of this issue. This clearly leaves open the prospect that the lack of association found in the research reported is less an inadequacy of the independent variable (measure of goal orientation) and more a function of the lack of validity in the measurement of the dependent variable (measure of goal involvement)!

A more basic issue concerns Harwood et al.'s belief that a "good" dispositional goal orientation measure should be highly predictive of states of task and ego involvement. We are unsure as to why they would expect a dispositional measure to be *strongly* associated with the ensuing states of task and ego involvement. For example, simply because one is dispositionally ego oriented does not mean he or she is in a perpetual state of ego involvement. While dispositional goal orientations tap proneness regarding the criteria used to judge personal success, goal states are ways in which an activity is being processed, cognitively and affectively, at a particular moment. The latter are impacted by the immediate perceived situational dynamic as well as the prevailing motivational climate. That is why, we would contend, that the examination of goal orientations per se should not be consistently expected to be strongly related to goal states.

## Conclusion

Theoretical frameworks are always a work in progress. To this end, we concur with the spirit of Harwood et al.'s article which implies that our conceptual models should be continuously questioned, tested, and extended. Their article reflects an attempt to develop and extend achievement goal theory both conceptually and

from a measurement perspective in the context of competitive sport. These are important objectives, but ones that must be driven by sound theoretical reasoning and systematic empirical verification. Congruent with the comments of Petruzzello (2000) in his opening editorial remarks concerning the importance of debate and the presentation of opposing viewpoints as a means of advancing knowledge, we welcome Harwood et al.'s thought-provoking article. However, if the content of the article is indicative of the prevailing weight of knowledge pertaining to achievement goal theory in sport, we welcome this forum as an opportunity to clarify a great deal of misrepresentation that exists in the sport psychology literature focused on achievement goal theory.

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